

# PRE-CERCLIS SCREENING (PCS) ASSESSMENT CHECKLIST/DECISION FORM

The checklist can be used to assist the site investigator during Pre-CERCLIS screening. This checklist should document the rationale for the decision as to whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

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 Name/Title Date  
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Site Name: **Metals Refining Co.**

Previous names (if any): **The Glidden Co.; The Glidden Varnish Co.**  
**Glidden & Joy Varnish Co.**

Site Location: **11001 Madison Avenue; Cleveland, Ohio 44102**  
 (See attached description and maps).

Latitude: (if applicable) **41° 28' 36.4764" North;** Longitude: **081° 45' 47.5200" West**

## PHASE A - CERCLA Eligibility Evaluation

If the answer to any one of these is yes, the sites can be NFRAPed or Archived		YES	NO
1. Is the site non-existent, or is it not a duplicate (or "alias") of another site?			X
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?			X
3. Are the hazardous substances potentially released at the site excluded statutorily (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC< UMTRCA, or OSHA)?			X
4. Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferred to RCRA Corrective Action, FIFRA, or Brownfields)?			X
5. Is there insufficient data (provided by the State) to verify that a release has occurred (e.g., based on potentially unreliable sources or with no information to support the presence of hazardous substances or CERCLA eligible pollutants and contaminants)?			X
6. Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARS, completed removal action, previous HRS score determined, or an EPA approved risk assessment completed)?			X

## PHASE B - INITIAL SITE EVALUATION

Use Exhibit A to make site assessment decisions based on the answers below:	YES	NO
Is there documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		X
Is there an apparent release at the site with no documentation of exposed targets, but there are targets on-site or immediately adjacent to the site?		X
Is there an apparent release and no documented on-site targets, but there are nearby targets (e.g., targets within 1 mile)?	X	
Is there indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on-site or in proximity to the site?		X
Documented on-site or nearby targets?	X	
Uncontained sources containing CERCLA eligible substances are present on site.		X
There are releases or potential to release.	X	

Please explain all yes answer(s). See Attached Narrative of Exhibit A

### EPA Regional Review and Site Assessment Decision

Check the box(es) that apply:

- ☒ NFRAP/Archive  
☐ APA  
☐ Full PA  
☐ Combined PA/SI  
☐ SI

Defer/Refer to:

- ☐ Removal Program  
☐ State/Tribal Program  
☐ RCRA  
☐ Brownfields  
☐ Other: \_\_\_\_\_

Regional EPA Reviewer:

\_\_\_\_\_  
Print Name / Signature

\_\_\_\_\_  
Date

## EXHIBIT A

### Introduction

In the spring of 2001, the *American Public Health Journal* published a report on former lead smelting facilities that are potentially contaminated with high levels of lead (APHJ, 2001). The study, which was conducted by William P. Eckel, a doctoral candidate and a current USEPA employee. He cited 430 former, secondary lead smelting facilities in 35 states that are unknown to federal and state authorities. It divided the smelters into two types: “Battery Lead Smelters”; or, “Babbitt Metal & Solder Smelters and/or Manufacturers”. Of the smelters listed, 17 sites are located in Ohio. This PCS focuses on one of the nine sites in the Cleveland area, **Metals Refining Company**, a “Battery Lead Smelters”. Eckel discovered Metals Refining Co. was mentioned in the 1931 Standard Metal Directory, a national directory of the metals industries.

### Site Description

The former Metals Refining Co. was located at 11001 Madison Avenue; Cleveland, Ohio; 44102 in Cuyahoga County. See **Figure One, Site Location Map** (USGS topo), and, also, see **Figure Two, 2002 Air Photo**. The air photo demonstrates the current site conditions. Based on this address and on a site reconnaissance in December 17, 2002, the Battery Lead Smelters no longer exist. Aerial photography, historical information, real estate & tax records, site reconnaissance and/or the yellow pages indicate that Metals Refining Co. operated as a “Manufacturers of Lead and Type Metals” at 11001 Madison Avenue. Of the original three site buildings suspected of lead smelting activities, only one remains.

The surface elevation of the former Metals Refining Co. site at 11001 Madison Avenue is approx. 710 feet above mean sea level (amsl). Lake Erie it is about 0.88 mile north of the site. The setting for the former Metals Refining Co. site is in area with mixed land uses: commercial, industrial and residential. The site is set on a triangle-shaped city block, bounded by Madison Ave. to the north and Berea Road to the southeast. Surrounding the site in all four compass directions are industrial and /or commercial properties and buildings. West of the building are the railroad tracks of the Cleveland Regional Transit Authority and Conrail. See **Attachment One, Photographic Log**.

The current property owner for 11001 Madison Avenue site (Parcel #005-01-003; industrial) is Berea Road West, Incorporated. These 8.8 acres of property were listed under 11000 Berea Road; last owned by Patrick J. Kelly; and, transferred on September 24, 1999. (CCAO, 2002.) On-site access was denied by a representative of the Catholic Diocese of Cleveland. According to the GIS web-page map for the Cleveland City Planning Commission, this property is zoned as “Heavy Industrial” (CCPC, 2003). According to the GIS web-page map for the Cleveland City Planning Commission, this property is zoned as “General Industry” use (CCPC, 2003).

The site is currently an industrial park with various tenants. The largest, tenant is “Seibert Power Coatings”, based on their sign on one of the former Glidden buildings (Ohio EPA, 2002-3). Per both the Yahoo and Mapquest Yellow Pages, Seibert Powder Coatings was mentioned at 11110 Berea Rd, Cleveland, OH 44102; Phone: (216) 631-1001 or 2002 (Yahoo, 2003 and Mapquest, 2003). Seibert is profiled by Paint & Coatings Industry Magazine as a “Seibert Powder Coatings produces finishes primarily for the automotive industry, and also makes private-label products for the industrial, lawn and garden, architectural, and steel office-furniture markets. A liquid-coating facility operates under the name NPA Automotive. The company is affiliated with Nippon Paint of Japan and is known as NPA Coatings Inc.” Per [www.powdercoatings.com](http://www.powdercoatings.com), the President of Seibert Powder Coatings is Sam Rhue. Seibert makes “M & S epoxy, polyester, hybrid, polyurethane, and acrylic powder coatings.” (PC, 2003).

Cuyahoga County is located in north-eastern Ohio on Lake Erie. Cleveland is the county seat and is

among the largest cities in Ohio. The Census Bureau's 1990 population total for the city of Cleveland is 505,616; the 1990 population of the entire county is 1,412,140. (ODNR-DOW, 1994.)

The climate of Cuyahoga County is typical of the temperate mid-continent region; the average temperature in winter and in summer are 29 degrees F, and 70 degrees (USDA, 1980), respectively; and, average annual precipitation is 35.40 inches (ODNR-DOW, 1994).

### Site History

Available historic information for the Metals Refining Co. include: 1792 map; 1867 map; 1876 Cleveland City street map (Robison, etc., 1876.); 1896, 1912-1913 & 1951 Sanborn insurance maps (Sanborn, various years); the 1903 USGS topo map (USGS, 1903); the Cleveland City Directories from 1837-8 thru 1974 (CDC, various years); aerial photos from 1949 & 1950 thru 2002 (ODOT, various years); and, the Cuyahoga County Auditors Office (CCAO, 2002). For a more detailed history of this property and site, see **Attachment Two, Metals Refining Co. Site History**. The information in **Attachment Two** is listed as it appears chronologically in the aforementioned historical references. The first and last known records of the Metals Refining Co. activities were from circa 1931 through circa 1948; which are assumed to be its years of operation. (Eckel, 2003 and CDC, various years)

The oldest known information for the site area is the 1876 Cleveland City street map, which does not show this portion of Cleveland, insinuating that it was not developed yet (Robison, 1876). The later 1903 Sanborn Fire Insurance map shows the site area, however the street addresses are 932 through 952 Madison Ave. and 163 to 187 Berea Road. The "Madison Hotel" was at 948 & 952 Madison Avenue. Two buildings were next to the hotel at 187 Berea Road; one building was identified as a "Hitching Shed" and the other was not. (Sanborn, 1903.)

On the 1912-3 Sanborn map, all of the buildings from 932 to 952 Madison Ave. and 163 to 187 Berea Road shown in the 1903 map were removed and replaced with numerous buildings & structures belonging to the Glidden Varnish Company. The brick buildings in the suspected site area along Madison Ave. from east to west follow: a "L"-shaped, three-story building were identified as as "31", "Offices"; and, a two-story building ("30") was used for "Laboratory & Testing" and "Finishing". The buildings paralleling Berea Road from east to west follow: a one-story shed identified as "No. 23", "Gateman"; a one-story building ("No. 17") used for "Garage & Gasoline Ho. (house)"; a one-story building listed as "No. 1" with "Printing, Storage & Lining"; a two-story building that was mentioned as "No. 2" with evidently the power plant with three, coal-fired, steam boilers to turn engines and dynamos; a two-story building labeled as "No. 3" with "Melting Ho. (house) #1 & #2"; Building "No. 4" with "Reducing Ho. (house) #1 & #2"; a two-story building marked as "No. 5" with "Melting Ho. (house) #3 & #4"; a one-and-a-half-story building labeled as "No. 6" with "Reducing Ho. (house) #3 & #4"; a one-story building designated as "No. 7" with "Oil Room and Rosin Rm. (room)"; a one-story building designated as "No. 9" with "Caustic Rm. (room)"; Building "No. 8" as "Filter & Laundry"; Building "No. 11" with "Reducing Ho. (house) #5 & #6", a two-story building labeled as "No. 10" with "Melting Ho. (house) #5 & #6"; a two-story building labeled as "No. 14" with "Set Kettle Ho. (house)"; and, Building "No. 25, Gum Storage". These melting and/or kettle houses were possibly used for melting lead to be added to the Glidden paint. The remaining eleven buildings of the Glidden facility were identified for paint manufacture purposes. Also, there were 24 above-ground, storage tanks for "Oil" with a 12,900 barrel capacity. (Sanborn, 1912-3.)

Pertaining to the Glidden Co. history, it was founded in 1886 as the Glidden & Joy Varnish Company. It was then located 11 miles east near Ellsworth (Grant) Ave., Evins Ave. & Lisbon Road (Rose, 1950; and, Sanborn, 1886-7, 1896 & 1903). Between 1903 and 1912-3, the factory of the "The Glidden Varnish Co." and/or "The Glidden Co." were referenced in the Cleveland City Directories and/or the Sanborn maps at 11001 Madison Avenue site address, during the years of 1912-13, 1928, 1939, 1942, 1948, 1950-1, 1952-3, 1956, 1958, 1961, 1966, 1968 & 1974. These multiple references indicate at least 62 years of Glidden Co. operations at the 11001 Madison Ave. site address. However, Eckel cites the Metals Refining Co. at 11001 Madison Ave., based on the 1931 Standard Metal Directory (Eckel, 2003). As a possible



explanation to this contrary information, the 1942 & 1948 Cleveland City Directories reference the address for Metals Refining Co. in 1396 Union Commerce Building at 925-927 Euclid Avenue. [Please note that the Union Commerce Bldg. was originally named the Union Trust Bldg., which opened in 1924; seven years prior to the 1931 SMD reference.] Metals Refining Co. was identified as "Manufacturers of Lead and Type Metals". Later, in the 1953, 1956, 1958 & 1961 Cleveland City Directories, the "Paint Manufacturers, Office" address for The Glidden Co. was the same as "1383-1396 Union Commerce Bldg. at 925-927 Euclid Ave., indicating some kind of connection between the two entities. Except for the 1931 Standard Metal Directory, no other known information cites the Metals Refining Co. at 11001 Madison Avenue site address. (Sanborn, various years; CDC, various years; and, Eckel, 2003.)

Incidentally, per the 1912-3 Sanborn maps, there were no lead smelting activities at 925-927 Euclid Ave. Prior to the Union Trust/Commerce Building in 1924, the 1912-3 map shows another office building called "The Lennox" at 901-927 Euclid Avenue. (Sanborn, 1912-3 & CDC, various years.)

The 1950-1 & the 1952-3 Sanborn maps was almost identical to the 1912-3 map, showing The Glidden Co. facility. (See **Figure Three, Sanborn Maps**. The 1950-1 map was used because of its clarity.) Additions to the the 1912-3 map include: a two-story building was used for "Office" with notes as "31" & "Built in 1929" and with a connection to the aforementioned, "L"-shaped office building; a four-story building marked for use as "Grinding Dept.", "Rest't (restaurant?)" & "Built 1920". Also, there were 30 storage tanks at the facility; 18 above-ground and 12 buried tanks. These tanks are detailed as follows: "Containing Yarnole, Turpentine, Naptha, Linseed Oil, Etc." (at least 11,500 barrels total capacity in seven above-ground; and, two buried tanks of unknown capacity); "Oil Tks." (tanks) [nine above-ground tanks of unknown capacity]; "Caus. Tks. (caustic tanks)" [50 barrels each in two above-ground tanks]; and, "Solvent Tks. (tank) Buried" and "Total Ca'pc'y. (capacity) 95,000 Gals. (gallons)" in ten tanks; and, "Solvent Trnk. (Tank) Buried" and "total capacity 95,000 gal. (gallons)" in ten tanks. The Glidden Co. property was bounded by Madison Ave., Berea Rd., and the "L.S. & M.S." Railroad tracks, extending nearly to W. 117<sup>th</sup> St. (formerly known as Highland Avenue). (Sanborn, various years.)

Buildings and structures in the air photos from 1950, 1961, & 1963 air photos match the 1950-1 & the 1952-3 Sanborn maps at the 11001 Madison Avenue site address. See **Figure Four, 1950 Air Photo** All of the aforementioned above-ground tanks on the 1950-1 Sanborn map were present in the 1950 photo. However, all of these tanks were removed in the 1961 & 1963 photos. (Sanborn, various years; and, ODOT, various years.)

The Glidden Company currently is a subsidiary of Imperial Chemical Industries PLC (CMR, 2001 & 2002).

Based on the December 17, 2002 reconnaissance, the 2002 color air photo (**Figure Two**), and the 1995 air photo (**Figure Five, 1995 Air Photo with Sampling Locations**), the 11001 Madison Avenue site has changed since the 1963 photo. As best can be determined, the following buildings or structures were removed between 1963 and 2002: the two-story, office building marked as "31"; Building "No. 1, Garage", Building "No. 5", Building "No. 7, 8 & 9" (were removed or consolidated into one building), Building "No. 10", Building "No. 11", Building "No. 14", and, Building "No. 25, Gum Storage". Otherwise, the building remained, however their current uses differ from those past. (Ohio EPA, 2002-3; and, ODOT, 1963.)

See **Attachment Two** for other detailed information.

### Soil Exposure Pathway and Targets

According to the USDA Cuyahoga County Soil Survey, the soil around and under the site is the Urban Land Association. This soil Association is basically described as: "Nearly level and gently sloping areas that are predominantly covered by buildings, structures, concrete, asphalt, and other impervious surfaces and other soil-forming processes require time to differentiate horizons in parent material." (USDA, 1980.)

Prior to urbanization, the soil around and under the site was most likely the Urban land-Mahoning Association. The urban version of this Association is basically described as: "Urban land and undulating, somewhat poorly drained soils that formed in silty and loamy glacial till; on uplands and lake plains." (USDA, 1980.)

Concerning nearby targets, the nearest known school is located about 0.26 mile northwest from the site. There are no known on-site nor adjacent, terrestrial sensitive environments. See **Attachment Three, Population Information** map & its attached table. (Ohio EPA–GIS, 2003.)

This is the main pathway of concern posed by the 11001 Madison Avenue site to the environment and human health. The site is currently an industrial park with various tenants. Several of the original buildings and property once owned by The Glidden Co. and possibly Metals Refining Co. still remain; including one possible lead smelter building (No. 5, Melting House). Access to the property is restricted by a maintained, chain-link fence. Apparently, one gate along Berea Road allows access to the entire site; and, there was a guard at the gatehouse. Since the entire site appears to be fenced and access is controlled, the highest potential for exposure is to the on-site workers. Based on year 2000 internet information for Seibert only, there are 183-186 on-site, Seibert workers (Innercity, 2000). The number of workers in the remainder of the site is unknown. (Ohio EPA–DERR, 2002.)

It is unknown if the original site soil was covered or not, after Metal Refining and/or Glidden ceased operations. Based on what was visible through the chain-link fence, the majority of the former site surface area is a covered with buildings, pavement and/or grass

#### Surface Water Pathway and Targets

The entire county is drained principally by the Cuyahoga, the Chagrin, and the Rocky Rivers and their tributaries into Lake Erie. Any surface water runoff from any of the Gibson & Price and/or National Lead Co. sites would be captured by combined sewer overflows. The site is within 0.83 mile of the Lake Erie. (ODOT, 1961 and USGS, 1980.)

Five community, public water supplies (PWSs) utilize Lake Erie as a surface water source within a fifteen-mile radius of the 1213 West Third St. site; four Cleveland PWSs and one Berea PWS. (See **Attachment Four, Public Water Supply** map & its attached table.) These five PWSs serve 1,321,482 people. The nearest of these is 5.0746 miles from the site. An additional four PWSs purchase water from the aforementioned PWSs and serve 162,096 people. (Ohio EPA–GIS, 2002.)

According to **Attachment Five, Natural Heritage Data** map & its attached table, there are 42 aquatic and terrestrial sensitive environments within a fifteen-miles radius of the site. (Ohio EPA–GIS, 2002.)

Based on this distance and no perennial stream connection to the targets, the site is not suspected to impact the PWSs nor the sensitive environments. However, these PWSs and sensitive environments are within the 15-mile-downstream, target distance limit.

#### Ground Water Pathway and Targets

Cuyahoga County is in two physiographic provinces: the glaciated Allegheny Plateau (Southern New York section) of the Appalachian Plateaus Province on the south and east; and, the Eastern Lake & Till Plains sections of the Central Lowland Province on the west and north. The line of demarcation between the two provinces is the Portage Escarpment, which crosses the county diagonally in approximately a northeast-southwest line. (USDA, 1980)

Nearly all of Cuyahoga County is mantled by material of glacial or glacially-related origin. Till (Wisconsinan age) is the most abundant glacial deposit in the county. Till, by definition, is deposited directly by glacial

ice and is typically a poorly sorted mixture of clay, silt, sand, and gravel. (ODNR–DOW, 1994.) The bedrock underlying the glacial deposits is sandstone and shale. (USDA, 1980)

The hydrogeologic setting beneath all the sites was described by the 1994 ODNR Ground Water Pollution Potential of Cuyahoga County, Ohio as a Glacial Lake Deposits. It is “characterized by flat topography and varying thicknesses of fine-grained sediments that overlie sequences of fractured sedimentary rocks. the deposits are composed of fine-grained silts and clays interlayered with fine sand that settled out in glacial lakes and exhibit alternating layers relating to seasonal fluctuations. As a consequence of the thin alternating layers there is a substantial difference between the vertical and horizontal permeability with the horizontal commonly two or more orders of magnitude greater than the vertical. Due to their fine-grained nature, these deposits typically weather to organic-rich sandy silts with a range in permeabilities reflecting variations in sand content. Underlying glacial deposits or bedrock serve as the major source of ground water in the region. Although precipitation is abundant, recharge is controlled by the permeability of the surface clays. Water levels are variable, depending on the thickness of the lake sediments and the underlying materials..” (ODNR–DOW, 1994.)

There are no known private, residential drinking water wells within a mile of the site. Based on a 1993 ODNR Well Log #768792, the nearest known well to the site is a monitoring well located roughly 0.37 mile east of the site. This monitoring well was at a B.P. Oil Co. station at the intersection of Madison Ave. and West Boulevard. The stratigraphy for their well demonstrates subsurface glacial material (clay & sand) above a deep bedrock (shale). The 1994 Pollution Potential map and report also located a glacial lake deposits under the site area. (ODNR, Well Log, 1993 and ODNR–DOW, 1994.)

00 - 07' = Gry. (grey) Clay  
07 - 12' = Brn. (brown) Clay  
12 - 13' = Gry. (grey) Shale  
Water encountered at = N.A.  
Depth of casing = 3 feet  
Pumping rate = N.A.  
Casing diameter = 4 inches

Due to the presence of Lake Erie as an abundant, dependable water source, there are no ground water targets. No known, public water supplies (community nor non-community), utilizing ground water, are located within four miles of the site. (See **Attachment Four** map & its attached table.) (Ohio EPA–GIS, 2002.)

#### Air Pathway and Targets

Based on GIS information for the 11101 Madison Ave., 238,365 total people live within a four-mile radius of the site. Of these, 27,821 people and 957 people reside within a one-mile radius and a quarter-mile radius, respectively, of the site. (Ohio EPA–GIS, 2002.)

There are no known, on-site aquatic and/or terrestrial sensitive environments. According to **Attachment Five** map & its attached table, the known sensitive environment within a four-mile radius of the site is located 2.9007 miles west of the site. It is a terrestrial sensitive environment -- a State Endangered species -- called the *Monarda Punctata* (a.k.a. Dotted Horsemint). It is “ID # 1” on the **Attachment Five** map & in its corresponding table. (Ohio EPA–GIS, 2002.)

The surface soil on and around 11101 Madison Ave. may present a hazard. It was a factory of Glidden Co. that had “melting houses”; assumed to be used for the melting of lead. If the surface soil at this site does contain hazardous materials, there is little area to present an airborne particulate hazard to on-site workers and to nearby workers. Also, past airborne deposit of lead from the former site operation is a concern, due to at least 88 (circa 1886 to at least 1974) years of smelting and/or lead paint manufacturing activities that occurred there by Glidden and/or Metals Refining.

Based on this distance in-between the site and sensitive environments targets, the site cannot impact these targets. The air gas migration pathway is not of concern at this site, because the hazardous wastes of concern are heavy metals.

## SAMPLING & ANALYSES

### December 17, 2002 Reconnaissance

During the December 17, 2002 reconnaissance, one surface soil sample (**MR-01**) was collected for X-Ray Fluorescence (XRF) analyses. See **Table One, Field Screening Sampling Results -- Surface Soil -- XRF Metals**.

The sample (**MR-01**) was collected on the east side of the former Metals Refining Co. and/or Glidden Co. building and property. A grab, surface soil sample was taken from the triangular barren area, between the Madison Ave. and Berea Road. Analyses of **MR-01** detected zinc (415 ppm), lead (389 ppm), copper (248 ppm), and arsenic (68 ppm). (Ohio EPA–DERR, 2002.)

### XRF Sampling Results from 2003 Field Screening Investigation

To aid in a precursory determination whether or a lead and/or metals problem exists on and around this former secondary lead smelter, field screening samples were collected and analyzed using X-Ray Fluorescence (XRF) technology. Fourteen (14), total, XRF soil samples were collected in the field: one sample during the December 17, 2002 reconnaissance, and fourteen samples during the June 9-11, 2003 field screening investigation. Based on the preliminary December 17, 2002 analyses, Ohio EPA returned to the site on June 9-10, 2002 for more extensive field screening samples. For both 2002 and 2003 sampling locations and analyses, see **Figure Five, 1995 Air Photo with Sampling Locations**; and, **Table One**.

Only soil samples were collected, because no sediment was nearby or available. These samples were analyzed with a XRF (Spectrace 9000), within a few days after sampling. These results allowed the investigation to focus on possible hot spots and to identify samples sent to a contract laboratory, Kemron Environmental Laboratory of Marietta, Ohio for confirmation analyses.

Access for on-site sampling was sought, but could not be granted while we were in the field from June 9-11, 2003. Prior permission for access was not sought on public property along the city streets – where the majority of off-site sampling occurred. Permission was requested from the adjoining property owner for 2182 W. 105<sup>th</sup> St., which was vacant. Nor, was access acquired at the vacant property lots, because they were “open fields”.

### Sample Collection Procedures

Only soil samples were collected, because there was no available sediment. Soil samples were collected using dedicated materials (spoons, pans, bags, etc.) for each sample location; and, the same sample collection procedures. Samples were collected from the top 3 inches of soil into an 11-inch diameter stainless steel mixing bowl. Samples were collected by placing the mixing bowl, face down at the point of sample collection. Using a stainless steel spoon, the sampler cut down into the soil around the diameter

of the bowl, making a discrete sample area. The sampler pulled back the immediate top layer of sod (if present) and shook the loose soil from this section of sod. The sampler collected the top 3 inches of the soil into the mixing bowl. The soil was thoroughly homogenized in the bowl; then packed into labeled, “Zip-lock” plastic bags.

At the Ohio EPA Field Facility in Groveport, Ohio, the XRF operator took an aliquot from the respective plastic bags, for the purposes of conducting sample screening with X-Ray Fluorescence (XRF). The aliquot was dried; pulverized with a rubber mallet; placed in a labeled XRF sample container; analyzed; then, transcribed to a hand-written sheet, which was modified into **Table One**. Based upon these screening results, a minimum of 10% of the total 75 collected samples at eight sites -- or at least one per site -- were sent to Kemron Environmental Laboratory of Marietta, Ohio for confirmatory lab analysis. The XRF was calibrated each time it was used. At least one duplicate sample was analyzed and one background sample were collected, per site. All samples -- both XRF screening and laboratory -- were evaluated for the “RCRA-Eight” metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

### Sampling Priorities

Based on the December recon analyses, Ohio EPA returned to the site on June 9-10, 2002 to collect more field screening samples. Samples were to be collected in all directions around the sites. Exact sampling locations and numbers were decided in the field, based on accessibility and practicality. Sample numbers had the prefix “**MR-1**, **MR-2**, etc.”. Our priorities for collecting field screening samples were, if possible:

1. at least three on-site (depending upon access);
2. immediately adjacent to the site;
3. off-site, at nearby or adjoining target areas: urban housing or residential; streams or drainageways; schools, daycare centers or playgrounds; exposed soil; etc.;
4. airborne depositional areas predominantly downwind (northeast, east & southeast) of the site;
5. representative background soil in parks, roadway right-of-ways, open fields, woods, etc., that are predominantly upwind (due west) of the site.

### Discussion of Sample Locations & Results

All sample results were compared to the accepted USEPA Region 9 Preliminary Remediation Goals (PRGs) for residential soils; the USEPA Removal Action Levels for Residential and for Commercial /Industrial Values; and, for comparison's sake, the Ohio EPA-Voluntary action Program (VAP) clean-up standards for Residential and for Commercial /Industrial Land Uses. The PRGs values are considered to be conservative screening values; below which, additional investigation is generally not warranted. They are not cleanup values, although they may conservatively be used as such. (USEPA--PRGs, 2000.)

Two samples were collected on-site at the former Metals Refining Co. site; both in an “open fields” area near the intersection of Madison Ave. and Berea Road. These two samples, **MR-1** (389 ppm lead), and **MR-5** (700 ppm lead), were downwind of the remainder of the site. Five, adjacent samples were collected along either Berea Road (**MR-02**, **MR-03**, and **MR-04**), or, Madison Avenue (**MR-06** and **MR-07**), which contained lead ranging from 232 ppm at **MR-04** to 1495 ppm at **MR-06**. (See **Table One** and **Figure Five**.) Lead results at three, adjacent locations (1298 ppm at **MR-02**, 800 ppm at **MR-07**, and 1495 ppm at **MR-06**) surpassed the USEPA Removal Action Levels for Commercial /Industrial Values (lead = 500-1000 ppm); and/or, the USEPA PRG value for Commercial /Industrial Values (lead = 750 ppm).

The remaining seven, off-site, sampling locations were in the residential/target neighborhood to the north and northwest (**MR-08**, **MR-09**, **MR-10**, **MR-11** (and **MR-11-DUP**.) and **MR-12**), or, to the east (**MR-13** and **MR-14** (and **MR-14-LAB**)). Except for **MR-08** at 35 ppm and **MR-10** at 134 ppm, the range of residential/target lead results in analyses were near or above 400 ppm; varying from 391 ppm at **MR-11**,



to 696 ppm at **MR-14**. Lead results at five of eight of these locations in residential areas exceeded either: the USEPA PRG value for residential soil (lead = 400 ppm); and/or, for comparison's sake only, the Ohio EPA--VAP standard for residential Land Use (lead = 400 ppm). Though these are XRF results and not lab data, they did exceed any risk-based standard or level, at these target locations

Analyses of **MR-02** (35 ppm) and **MR-10 (134 ppm)** indicate background lead levels.

### Confirmatory Lab Sample Results

Based on the aforementioned XRF screening results, one sample (**MR-14**) was selected for lab analyses. **MR-14** was selected because it was a high lead level for an off-site, residential, target location. The **MR-14** sample material was transferred from the stored, "Zip-lock" bags into an nine-ounce glass jar and designated as **MR-14-LAB**. The sample was sent to Kemron on August 21, 2003. See **Table One** for results. The **MR-14-LAB** analytical data compared adequately with **MM-07** XRF results. Like **MR-14**, the analytical data for **MR-14-LAB** did exceed the USEPA PRG value for residential soil (lead = 400 ppm).

## CONCLUSIONS

Based on William Eckel's doctorate dissertation, he used the 1940 Standard Metal Directory to identify it as a "Battery Lead Smelter" (SMD, 1940). The site names of "Metals Refining Co." was not verified at the site address of 11001 Madison Avenue". The office address of "Metals Refining Co." was verified in Cleveland at **1396 Union Commerce Building at 925-927 Euclid Avenue in 1942 & 1948**. The factory address of "Metals Refining Co." was not discovered by Ohio EPA independently of Eckel's research. For the "11001 Madison Avenue" site address, The Glidden Co. Factory was verified at 11001 Madison Avenue from at least 1912 through 1968. The Glidden Co. offices were also at 1396 Union Commerce Building at 925-927 Euclid Avenue, from at least 1942 to 1948. This common address also indicates that Metals Refining was part of The Glidden Company. (CDC, 1942 & 1948.) The 1948 Standard Metal Directory referenced that Metals Refining Co. 11001 Madison Avenue was a "Divisional Operation ..... Chemical & Pigment Co., Cleveland" of The Glidden Company.

From the historical information (City Directories & Sanborn maps) gathered, we can verify Eckel's assertion that there was a "Battery Lead Smelter" at 11001 Madison Avenue. Glidden's melting houses at the 11001 Madison Avenue site address are presumed to have been used for melting lead for paint. At least one of these melting houses buildings remain, though it no longer seemed to be used for melting.

The on-site, surface soil of the former site may contain hazardous wastes (heavy metals); and may present an airborne particulate hazard to the on-site workers. Past off-site, airborne deposit of lead from the former smelter smokestacks is a concern for both off-site workers and nearby residents, due to their close proximity downwind (450 feet). Analyses of exposed, adjacent, off-site soil at the adjacent, sampling locations contained lead above the USEPA PRG value for industrial-commercial soil (lead = 750 ppm). Analyses of soil in two residential areas had several lead levels over the USEPA PRG value for residential soil (lead = 400 ppm). Based on the high levels in the surrounding residential areas, further site investigation is recommended at the 11001 Madison Avenue site address. (CDC, various years & Sanborn, various years.)

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**Eckel, 2003:** Information directly from William “Bill” Eckel; Telephone conversations, mail and/or E-mail between Wendy Vorwerk and/or Edward Link of Ohio EPA; Mr. Eckel (phone #703-305-6451) is currently employed by the USEPA in the Environmental Fate and Effects Division of the Office of Pesticide Programs located on Washington, DC.

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## **LIST OF FIGURES, TABLES and ATTACHMENTS**

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**Figure One = Site Location Map**

**Figure Two = 2002 Color Air Photo**

**Figure Three = Sanborn Maps**

**Figure Four = 1950 Air Photo**

**Figure Five = 1995 Air Photo with Proposed Sample Locations**

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**Table One = Field Screening Sampling Results -- Surface Soil -- XRF Metals**

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**Attachment One = Photographic Log**

**Attachment Two = Site History**

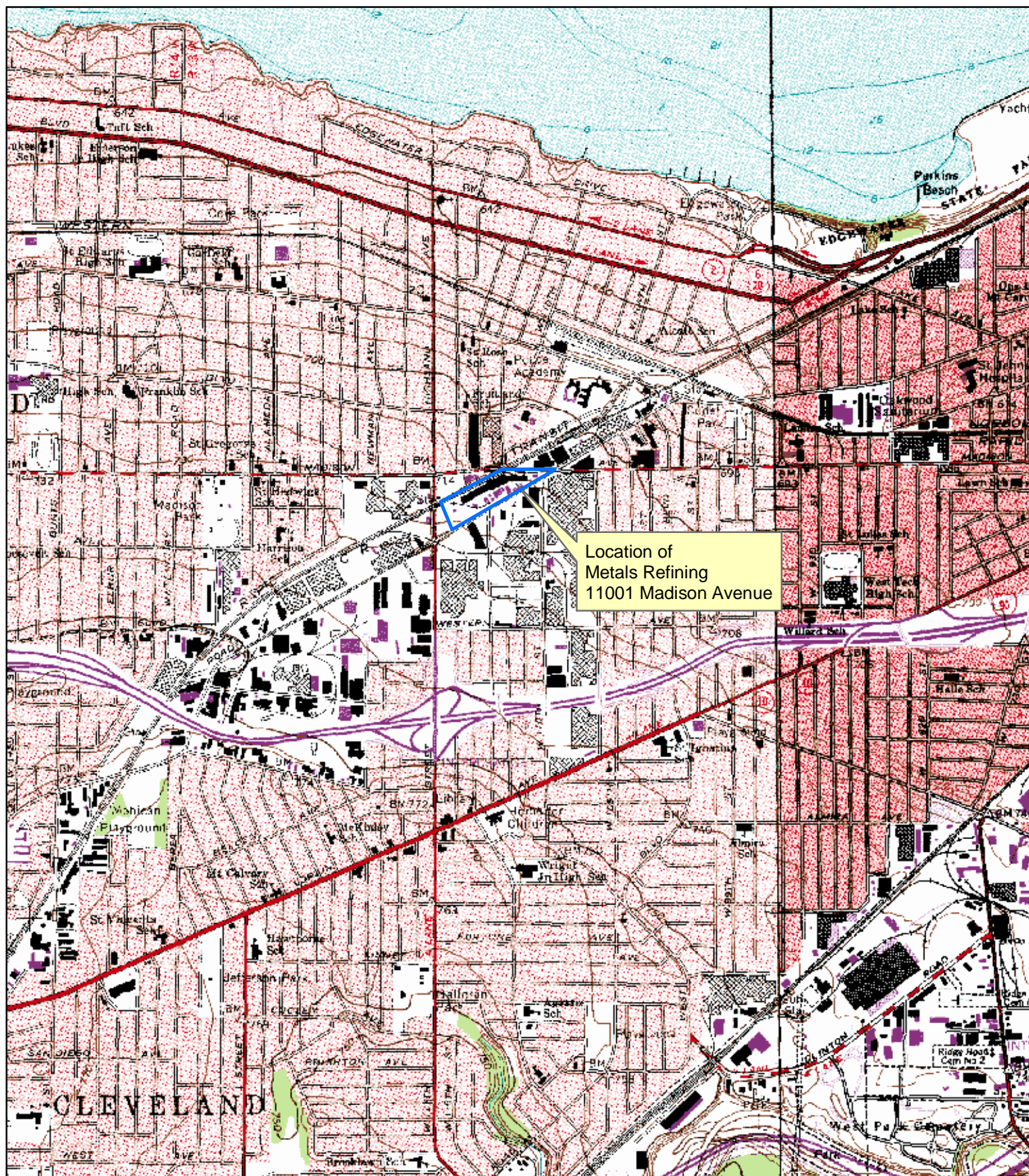
**Attachment Three = Population Information** (map & its attached table)

**Attachment Four = Public Water Supply** (map & its attached table)

**Attachment Five = Natural Heritage Data** (map & its attached table)

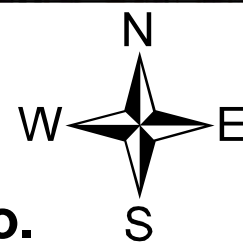
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0 950 1,900 3,800 5,700 7,600 Feet

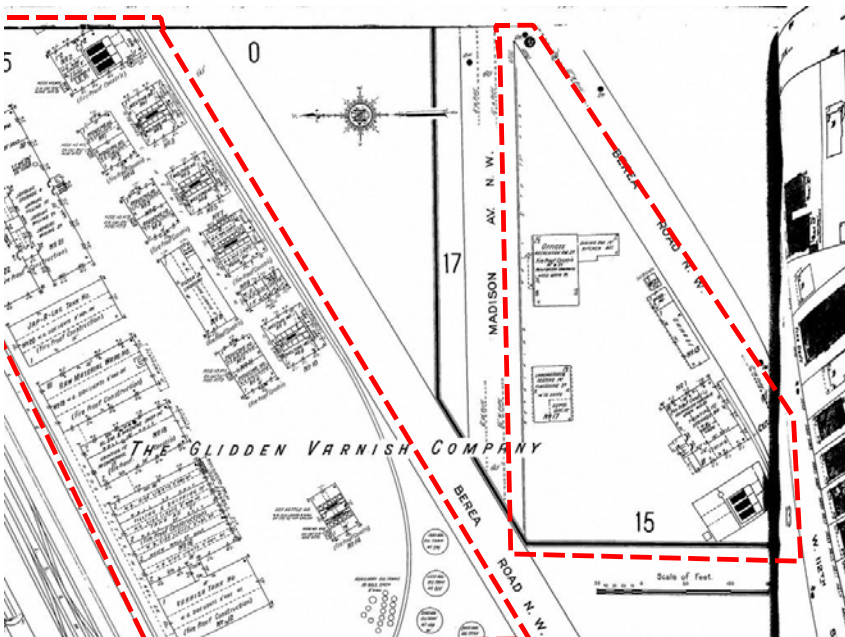
**Figure One:**  
**Site Location Map of Metals Refining Co.**



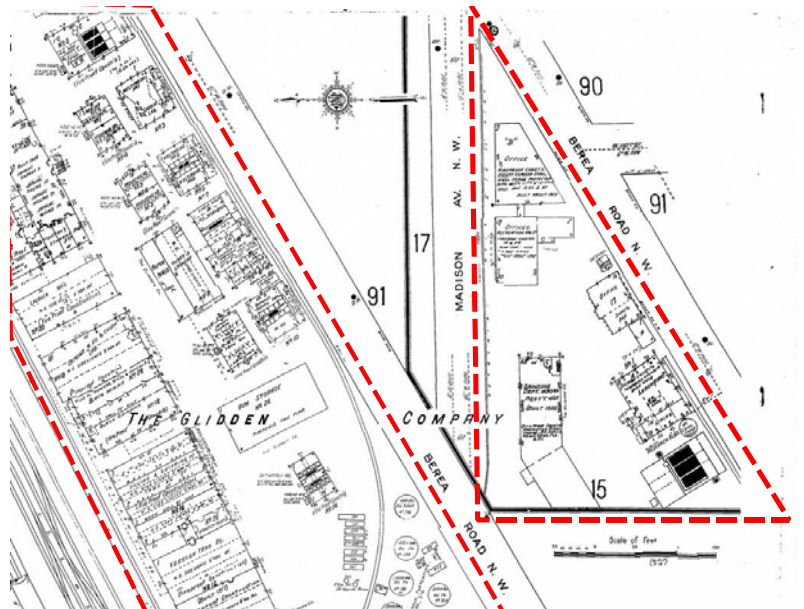




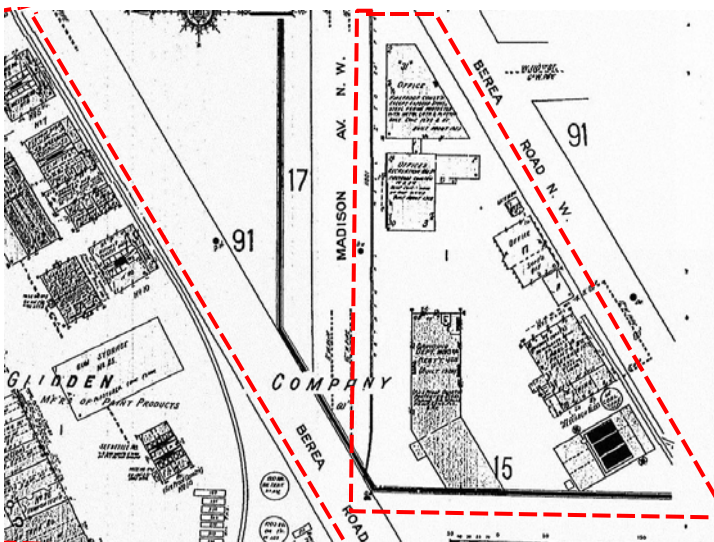
**Figure 2:**  
**2002 Color Air Photo for**  
**Metals Refining Co. (Glidden Co.)**



**1912-1913  
Sanborn  
Map**



**1912-1951  
Sanborn  
Map**



**1912-1953  
Sanborn  
Map**

**Figure 3: Sanborn Maps for Metals Refining Co.**









**Table 1: Metals Refining --  
XRF Field Screening and Lab Sampling Results - Soil**

SITE NAME ==>	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING
SITE ADDRESS ==>	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.
SAMPLE LOCATION ==>	ON-Site; NE corner	Off-Site; S. of Site;	Off-Site; S. of Site;	Off-Site; S. of Site;	ON-Site; NE corner	Off-Site; N. of Site;	Off-Site; N. of Site;	Off-Site; N. of Site;	Off-Site; N. of Site;	Off-Site; NE. of Site;	Off-Site; NE. of Site;	Off-Site; NE. of Site;
	Berea; NE @ 110th	Berea; SE @ 114th	Berea Rd.; across chimney	Berea; SW @ 110th	Berea; NW @ Madison	Madison; SW @ RTA	Madison; SE @ 114th	School @ Franklin & 114th	NW of Franklin @ 112th	Tree @ 1452 E. 107th	Tree @ 1440 E. 107th	Tree @ 1440 E. 107th
SAMPLE ID # ==>	MR - 1	MR - 2	MR - 3	MR - 4	MR - 5	MR - 6	MR - 7	MR - 8	MR - 9	MR - 10	MR - 11	MR - 11 -- DUP
DATE ==>	Dec. 17, 2002	06/11/03, 12:50	06/11/03, 12:45	06/11/03, 13:00	06/11/03, 13:10	06/11/03, 13:25	06/11/03, 13:40	06/11/03, 13:45	06/11/03, 14:00	06/11/03, 14:10	06/11/03, 14:15	06/11/03, 14:15
QA / QC INFO ==>	----	----	----	----	----	----	----	School	Res. / Comm.	Residential	Residential	REPLICATE
XRF ANALYTE		PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg
potassium (K)	16640	----	----	----	----	----	----	----	----	----	----	----
calcium (Ca)	11260	----	----	----	----	----	----	----	----	----	----	----
titanium (Ti)	4020	----	----	----	----	----	----	----	----	----	----	----
chromium (Cr)*	ND	370 / 210	ND	ND	380 / 197	ND	240 / 210	ND	ND	ND	270 / 183	180 / 151
manganese (Mn)	----	----	----	----	----	----	----	----	----	----	----	----
iron (Fe)	40940	----	----	----	----	----	----	----	----	----	----	----
cobalt (Co)	----	----	----	----	----	----	----	----	----	----	----	----
nickel (Ni)	----	----	----	----	----	----	----	----	----	----	----	----
copper (Cu)	248 / 29	----	----	----	----	----	----	----	----	----	----	----
zinc (Zn)	415	----	----	----	----	----	----	----	----	----	----	----
arsenic (As)*	68 / 16	ND	31 / 22.5	31 / 15	45 / 23	ND	78 / 26	23 / 10	56 / 22	60 / 14	32 / 18	29 / 18
selenium (Se)*	ND	ND	12.4 / 9.9	ND	ND	ND	ND	ND	ND	19 / 8	ND	ND
strontium (Sr)	150	----	----	----	----	----	----	----	----	----	----	----
zirconium (Zr)	254	----	----	----	----	----	----	----	----	----	----	----
molybdenum(Mo)	----	----	----	----	----	----	----	----	----	----	----	----
mercury (Hg)*	ND	ND	32 / 22	32 / 20	ND	ND	ND	ND	ND	ND	ND	ND
lead (Pb)*	389	1298	600	232	700	1495	827	35	556	134	391	381 / 21
rubidium (Rb)	134	----	----	----	----	----	----	----	----	----	----	----
cadmium (Cd)*	ND	ND	ND	ND	ND	ND	ND	ND	ND	59	ND	ND
tin (Sn)	----	----	----	----	----	----	----	----	----	----	----	----
antimony (Sb)	----	----	----	----	----	----	----	----	----	----	----	----
barium (Ba)*	734	474	646	658	674	700	490	471	535	504	431	432
silver (Ag)*	ND	ND	145 / 36	101 / 33	45 / 32	110 / 37	ND	45 / 30	150 / 36	130 / 31	61 / 29	49 / 29
uranium (U)	----	----	----	----	----	----	----	----	----	----	----	----
thorium (Th)	----	----	----	----	----	----	----	----	----	----	----	----
aluminum (Al)	----	----	----	----	----	----	----	----	----	----	----	----

**NOTES:** "74 / 40.8" = First number (74) is the result / Second number (40.8) is the standard deviation

ND = Non-Detect; C = Carcinogenic; NC = Carcinogenic

---- = Below significant detection limits of XRF; or, not analyzed for.

# = Region IX PRGs for Residential Soil; Cancer Risk or Chronic HQ

## = Nearest available county with data is Medina County

\* = "RCRA-Eight" metals = arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

\*\* = Mercury was not analyzed by the lab, because XRF samples exceeded the 28-day holding time before they were sent to Kemron.



XRF ANALYTE	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg
potassium (K)	----	----	----	----	----	----	----	----	----	----	----	----	----
calcium (Ca)	----	----	----	----	----	----	----	----	----	----	----	----	----
titanium (Ti)	----	----	----	----	----	----	----	----	----	----	----	----	----
chromium (Cr)*	ND	ND	410 / 200	84.2	----	----	----	450 (total)	210 (total)	1000000	780000	1000000 (III)	120000
manganese (Mn)	----	----	----	----	0.002	0.002	0.003	32000	1800	470000	18000	----	----
iron (Fe)	----	----	----	----	1.007	0.996	1.000	100000	23000	1000000	230000	----	----
cobalt (Co)	----	----	----	----	0.004	0.002	0.003	100000	4700	1000000	47000	40000	1400
nickel (Ni)	----	----	----	----	----	----	----	41000	1600	410000	16000	57000	1500
copper (Cu)	----	----	----	----	----	----	----	76000	2900	820000	31000	----	----
zinc (Zn)	----	----	----	----	----	----	----	100000	23000	1000000	230000	900000	23000
arsenic (As)*	35 / 14	16 / 13	44 / 22	17.0	----	----	----	440-NC or 2.7-C	22-NC or 39-C	380-C or 6100-NC	43-C or 230-NC	80	6.8
selenium (Se)*	10.2 / 9.2	ND	19.7 / 9.8	1.77 J	----	----	----	10000	390	100000	3900	15000	390
strontium (Sr)	----	----	----	----	----	----	----	100000	47000	1000000	470000	----	----
zirconium (Zr)	----	----	----	----	----	----	----	----	----	----	----	----	----
molybdenum(Mo)	----	----	----	----	----	----	----	10000	390	100000	3900	----	----
mercury (Hg)*	40 / 21	29 / 19	ND	----**	----	----	----	610	23	6100	230	300	7.8
lead (Pb)*	132	178	636	544	----	----	----	750	400	500-1000	----	1800	400
rubidium (Rb)	----	----	----	----	----	----	----	----	----	----	----	----	----
cadium (Cd)*	ND	ND	ND	5.41	----	----	----	810	37	10000	390	770	35
tin (Sn)	----	----	----	----	----	----	----	100000	47000	1000000	470000	----	----
antimony (Sb)	----	----	----	----	----	----	----	820	31	8200	310	1200	31
barium (Ba)*	600	484	696	275	----	----	----	100000	5400	1000000	55000	200000	5400
silver (Ag)*	67 / 32	56 / 29	36 / 31	1.91	----	----	----	10000	390	100000	3900	15000	390
uranium (U)	----	----	----	----	----	----	----	410	16	61000	2300	----	----
thorium (Th)	----	----	----	----	----	----	----	----	----	----	----	----	----
aluminum (Al)	----	----	----	11400	----	----	----	6	76000	1000000	780000	1000000	75000

\*\* = Mercury was not analyzed by the lab, because XRF samples exceeded the 28-day holding time before they were sent to Kemron.



Metals Refining Co. – December 17, 2002 Reconnaissance -- 11001 Madison Avenue; Entrance gate to 11001 - 11120 Madison Avenue; former Metals Refining building is in right center of photo; Note sign of current RENTER, "Seibert Power Coatings"; Looking northwest from Madison Ave.



Metals Refining Co. – December 17, 2002 Reconnaissance -- 11001 Madison Avenue; Looking north from Madison Ave.; former Glidden buildings from left to right along Madison are: Building "No. 3" with "Melting Ho. (house) #1 & #2"; Building "No. 2" was "Printing, Storage & Lining"; Building "No. 1" was power plant; XRF Sample **MR-03**



Metals Refining Co. – December 17, 2002 Reconnaissance -- 11001 Madison Ave.; Looking northeast from Berea Road at 114<sup>th</sup> Street; former Glidden buildings are brick 3- & 4-story in center of photo along Madison; behind it from left to right are roughly former Glidden Buildings No. 18, 28 & 20; XRF Sample **MR-02**



Metals Refining Co. – December 17, 2002 Reconnaissance -- 11001-11120 Madison address; Looking north across Berea Road at 114<sup>th</sup> St.; Back buildings are currently commercial-industrial buildings were roughly former Glidden Buildings No. 15, 27, 24, 12 26 & 16; former Glidden Buildings No. 14 & 25 was removed, but located about where grass mound where pallets are piled.



Metals Refining Co. – December 17, 2002 Reconnaissance -- 11001 Madison Ave.; Looking southwest along Berea Rd; former Glidden Building No. 1 is brick building in right center of photo



Metals Refining Co. – December 17, 2002 Reconnaissance; Midland Steel on Berea Road which was formerly Meriam Instrument Co. Manometers Mfg; across street from 11001 Madison Avenue; Looking southwest from 11001 Madison at intersection of Berea & 110<sup>th</sup> Street





Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking west from Madison Ave. near W. 112th; former Glidden tank yard and Building No. 25 was in the area with green grass; XRF Sample **MR-02**



Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking west from Madison Ave. near W. 112th; former Glidden property was in the area with green grass and brick buildings



Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking southwest from intersection of Madison (right) & Berea (left); former Glidden brick, office building (center of photo); former office building was in green grass area; XRF sample **MR-01** in left center; **MR-05** in bottom right



Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking north from Madison Ave.; former Glidden buildings from left to right along Madison are: Building “No. 3” with “Melting Ho. (house) #1 & #2”; Building “No. 2” was “Printing, Storage & Lining”; Building “No. 1” was power plant; XRF Sample **MR-03**



Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking northwest from Madison Ave.; former Glidden brick building in center of photo is Building No. 6



Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking north from Madison Ave.; former Glidden brick buildings along Madison from left to right are Buildings No. 9/8/7, 3 & 2; XRF Sample **MR-03**





Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.: Looking south along W. 112<sup>th</sup> St. near Franklin Blvd.; note former Glidden smokestack (blue and white in center left)



Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.; Looking south from intersection of Madison (bottom third) & W. 114<sup>th</sup> St.; note former Glidden smokestack just to left of top of “STOP” sign; XRF Sample **MR-07** collected across street



Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.; Looking southeast from intersection of Madison (bottom left) & W. 114<sup>th</sup> St. (bottom right); Note former Glidden brick building in center left; XRF Sample **MR-06** collected across street



Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.; Looking southeast from intersection of Madison (bottom right) & W. 114<sup>th</sup> St.; note former Glidden smokestack in center left of photo



Refining Co. – June 9-11 Sampling Investigation – Madison Ave.: Looking south along W. 112<sup>th</sup> St. near Franklin Blvd.; note former Glidden smokestack (blue and white in center); XRF Sample **MR-10** near fire hydrant (bottom left)



Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.: Looking west from W. 114<sup>th</sup> St. near Franklin Blvd. at school; XRF Sample **MR-08**

## Attachment Two, Metals Refining Co. Site History

### **Metals Refining Co. -- Battery Lead Smelters**

11001 Madison Avenue;  
Cleveland, Ohio 44102

=====

Source = Cleveland Directories, 1852-1974

Source = SANBORN Maps, 1867-1970

Source = Cuyahoga County Auditor , 2002-3

Source = Yellow Pages from <http://yp.mapquest.com> or <http://yp.yahoo.com>; 2002-3

Source = 1931 Standard Metal Directory, from Eckel 2003

Source = 1948 Standard Metal Directory

=====

1837-8, 1846-9, 1852-3, 1864-5, 1872-3, 1881, 1896, 1902-3 & 1908

Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

1886? --**The Glidden Varnish Co.** -- company was founded according to "Cleveland:

The Making of a City" by William Ganson Rose; published by the World Publishing Co. in  
Cleveland, Ohio; published in 1950; page 468.

1856-75 Cleveland Directories -- **Glidden Varnish Co.**

\_\_\_\_\_ Woodland Ave.; Cleveland, OH

Francis H. Glidden bought Forest City W.L.W. in 1875

"Mixing paints & varnishes"

"Enamels"

"Jap-a-lac" brand-name

1912-13 SANBORN MAP -- **Metals Refining Co.** -- NOT MENTIONED

(published in 1913) -- SANBORN MAPS

### **The Glidden Co.**

11001 Madison Avenue -- ADDRESS VERIFIED, BUT NOT COMPANY ADDRESS

1916 & 1917 Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

1928 Cleveland Directory -- **Metals Refining Co.** -- NOT MENTIONED

### **The Glidden Co.**

11001 Madison Avenue

F. (Frances) H. Glidden = President

Glidden Varnish Co.; 2239 E. 55<sup>th</sup> St., SE

1930 & 1932 Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

1931 Standard Metal Directory --**Metals Refining Co.** -- 11001 Madison Avenue

"Battery Lead Smelters"

1939 Cleveland Directory -- **Metals Refining Co.** -- NOT MENTIONED

### **The Glidden Co.**

11001 Madison Avenue

**1939 to 1942 -- Metals Refining Co.** was founded sometime during this time period?

1942 & 1948 Cleveland Directories -- **Metals Refining Co.** -- COMPANY NAME VERIFIED  
[COMPANY NAME WAS VERIFIED, BUT AT A DIFFERENT LOCATION]  
**1396 Union Commerce Bldg. @ 925-927 Euclid Ave.**  
[Union Trust Bldg. opened in 1924; later renamed Union Commerce Bldg.]  
"Manufacturers of Lead and Type Metals"

**The Glidden Co.**  
11001 Madison Avenue

1948 Standard Metal Directory -- **Metals Refining Co.**

**The Glidden Co.** and **Glidden Co., The**  
"Union Commerce Bldg."; Cleveland, Ohio  
"Gliden Co., Madison Ave. & Berea Rd."  
"Divisional Operations: **Metals Refining Co.**, Div., Hammond, Ind., and  
Chemical & Pigment Co., Cleveland."  
Plants: Baltimore, Md.; Collinsville. Illinois.; Oakland. Cal.  
John P. Ruth, Gen. Mgr.;  
R. B. Quelos, Gen. Sales Mgr.;  
G. M. Halsey, Mgr., Baltimore Plant;  
W. K. Kelley, Mgr., Collinsville Plant;  
E.L. Ralston, Mgr., Oakland Plant.  
"PRODUCTS: Paint & varnish, paint pigments, metal powders, type metal,  
antimonial lead, litharge, red lead, food & vegetable oil products"  
["Litharge = an oxide of lead .... used in storage batteries, ceramic  
cements, paints, etc." (Webster, 1988.)]  
"PRODUCTS: Lithopone, titanium oxide, cadmium, Red & Yellow Lithopones."  
["Lithopone = a white pigment made by mixing barium sulfate with  
zinc sulfide, used in paints, linoleum, etc." (Webster, 1988.)]  
"Metals Smelters and Refiners"  
"Metal Powder Producers & Sellers"  
  
**Metals Refining Co.** – Hammond, Ind.  
Lead Brands = "MRCO (Antimonial)"  
"Divison of the Glidden Co."  
"Battery Lead Smelters"  
"Babbitt & Solder Mfrs."  
"Metal Powder Producers & Sellers"

1949 to 1953 -- Metals Refining Co. ceased operations or were sold?

1953, 1956, 1958 & 1961 Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

**The Glidden Co.**  
"Offices"  
11001 Madison Avenue  
"Paint Manufacturers"

1383-1396 Union Commerce Bldg. @ 925-927 Euclid Ave. = The Glidden Co.  
"Paint Manufacturers, Office"



1966, 1968 & 1974 Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

**The Glidden Co.**

900 **Union Commerce Bldg.** @ 925-927 Euclid Ave. **and**  
 11001 Madison Ave. = "Factory" (1966 & 1968)  
 "Offices"; Phone # = 961-8300  
 Joseph H. (Marie E.) Glidden = "Varnish Products"

**THE MADISON AVE. BLOCK in 1968:**

Berea Road intersects Madison Ave. == >  
 10920 Madison Avenue (north side of street) = Meriam Inst. Co. == >  
 11001 Madison Avenue (south side of street) = Glidden == >  
 [Conrail and Rapid Transit rail lines] == >  
 W. 112<sup>th</sup> St. (north side of street) intersects Madison Ave.

==-----==

**CURRENT PROPERTY OWNERS** (Source = Cuyahoga County Auditor):

**Metals Refining Co.**

11001 Madison Avenue; Cleveland, Ohio 44102-\_\_\_\_  
 Parcel # = 005-01-003; 8.8 acres = 11110 Berea Road, NW  
 Current = **Berea Road West, Inc.** = 11110 Berea Road, NW  
**Berea Road West, Inc.** = ?

Date Transferred = **09/24/99**; Industrial = 11110 Berea Road, NW  
 Recent Past Owner = **Patrick J. Kelly** = 11110 Berea Road, NW

**Patrick J. Kelly** [Source = <http://yp.yahoo.com> (Yellow Pages)]

**Kelly, Patrick J.**; Eastwood Ave., Cleveland, OH 44126

**Kelly, Patrick J.**; Valley Forge Dr., Cleveland, OH 44126

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**Glidden Comp. (Company)**

16651 Sprague Rd.; Strongsville, OH 44136  
 Parcel # = 395-09-003; Lot Size = 631,184 ft<sup>2</sup> or 14.49 acres  
 Date Transferred = **01/01/00**; Industrial

**Glidden Co.** [Source = <http://yp.yahoo.com> (Yellow Pages)]

Glidden Paint (a subsidiary of Imperial Chemical Industries)

900 (Union Commerce Bldg.) @ 925 Euclid Ave., Cleveland, OH 44115

[Same address since at least 1966]

Phone: (216) 344-8000

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**SURROUNDING PARCEL OWNERS** [Source = Cuyahoga County Auditor]:

Parcels # 00126012 = 10802 MADISON AVE.; KAESBERGER FRANK

Parcels # 00134007&8 = 10920 MADISON AVE.; MERIAM INSTRUMENT CO.

Parcels # 00122006 = 11200 MADISON AVE.; FAMOUS REALTY OF CLEVELAND, INC.

Parcels # 005-01-001 = 11420 MADISON AVE; CLEVE. REGIONAL TRANSIT AUTHORITY

Parcels # 005-01-002 = MADISON REAR; PENNSYLVANIA LINES LLC

Parcels # 005-01-004 = 11555 BERE A RD.; DILLON LEASING LLC

Parcels # 005-01-010 = 11600 BERE A RD.; KILBANE, THOMAS J. & VALERIE

Parcels # 005-01-011 = 11420-30 BERE A RD.; BERE A RD. WEST, INC., AN OHIO CORPORATION

**Attachment 3:**  
**Population Information for**  
**Metals Refining Co.**

<b>RADIUS</b>	<b>TOTAL</b>	<b>WHITE</b>	<b>BLACK</b>	<b>INDIAN</b>	<b>ASIAN</b>	<b>HAWAII_PAC</b>	<b>OTHER</b>	<b>HOUSING</b>
<b>3.00 - 4.00</b>	70302	56410	6356	262	975	18	6281	29501
<b>2.00 - 3.00</b>	73194	57189	7446	313	788	54	7403	29738
<b>1.00 - 2.00</b>	67048	53883	5467	254	1230	20	6193	29009
<b>0.50 - 1.00</b>	22274	17001	2429	99	674	18	2053	9811
<b>0.25 - 0.50</b>	4590	3348	584	35	196	4	423	2045
<b>0.00 - 0.25</b>	957	701	156	9	10	1	80	444
<b>TOTALS</b>	238365	188532	22438	972	3873	115	22433	100548

Note: 27,821 people within a one-mile radius of the site.



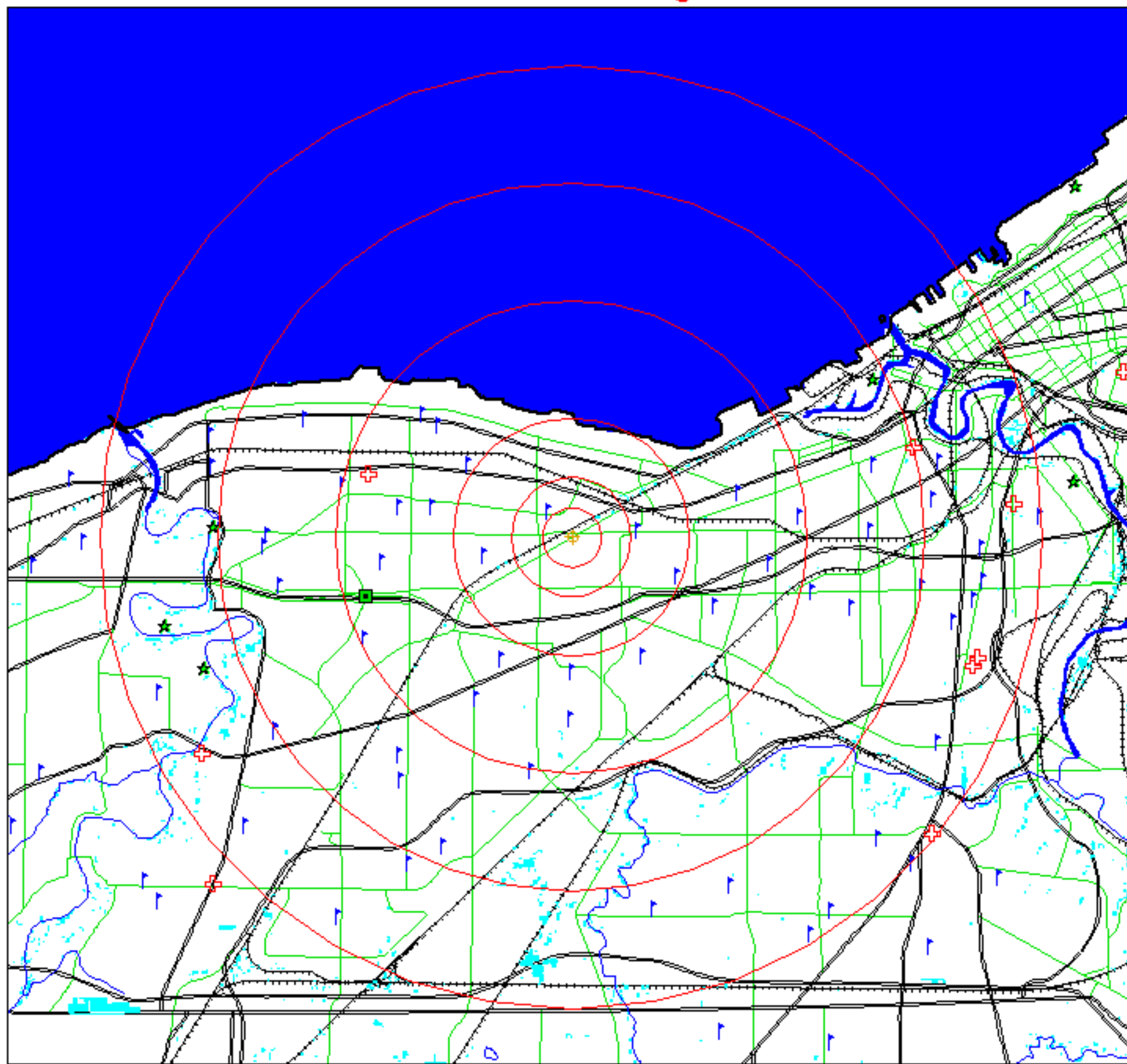


Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4 MILE RADIUS MAP

## Cuyahoga County

### Metals Refining



- ✚ Site
- └ School
- ✚ Hospital
- Public Surface Water Systems
- └ Public Ground Water Systems
- ★ US Endangered/Threatened Species
- ★ Ohio Endangered/Threatened Species

- Wetland Area
- Lakes & Ponds
- Wellhead Protection Area
- Limit of Radius From Site
- County Boundaries

- └ Rivers & Streams
- └ Railroad
- └ State and Federal Highways
- └ Local Roads
- └ Municipal Roads

N



2 0 2 Miles

**Attachment 4:**  
**Public Ground Water and**  
**Surface Water Systems Information for**  
**Metals Refining Co.**

**Public Surface Water Systems**

ID_	PWS_ID	SYS_SOURCE	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
1	1801003	Purchased Surface Water	Community	LAKEWOOD,CITY OF	12805 DETROIT AVENUE	LAKEWOOD	OH	1.8087	60000
2	1800311	Surface Water	Community	CLEVELAND,CITY OF-BALDWIN	11216 FAIRHILL BLVD.	CLEVELAND	OH	5.0746	424027
3	1800331	Surface Water	Community	CLEVELAND,CITY OF-MORGAN	1245 WEST 45TH STREET	CLEVELAND	OH	6.251	352888
4	1800321	Surface Water	Community	CLEVELAND,CITY OF-CROWN	955 CLAGUE ROAD	WESTLAKE	OH	6.6625	198665
5	1800111	Surface Water	Community	BEREA, CITY OF	11 BEREA COMMONS	BEREA	OH	9.0196	19056
6	1800503	Purchased Surface Water	Community	EAST CLEVELAND,CITY OF	14340 EUCLID AVENUE	EAST CLEVELAND	OH	9.8812	33096
7	1800403	Purchased Surface Water	Community	CLEVELAND HEIGHTS,CITY OF	40 SEVERENCE CIRCLE	CLEVELAND HEIGHTS	OH	9.8812	54000
8	1800341	Surface Water	Community	CLEVELAND,CITY OF-NOTTIN	1300 CHARDON ROAD	CLEVELAND	OH	12.6824	326846
9	1800003	Purchased Surface Water	Community	BEDFORD, CITY OF	65 COLUMBUS ROAD	BEDFORD	OH	13.4147	15000
10	4700311	Surface Water	Community	AVON LAKE, CITY OF	33370 LAKE ROAD	AVON LAKE	OH	14.5846	18121
11	4701803	Purchased Surface Water	Community	RURAL LORAIN CO. WATER AUTH.	42401 STATE ROUTE 303	LAGRANGE	OH	14.5846	45000
12	4701103	Purchased Surface Water	Community	SHEFFIELD LAKE, CITY OF	4750 RICHELIEU AVENUE	SHEFFIELD LAKE	OH	14.5846	9800
13	4700203	Purchased Surface Water	Community	AVON, CITY OF	35030 DETROIT RD	AVON	OH	14.5846	8000
14	4700803	Purchased Surface Water	Community	NORTH RIDGEVILLE, CITY OF	7307 AVON BELDEN ROAD	NORTH RIDGEVILLE	OH	14.6573	23000

**Public Ground Water Systems**

ID_	PWS_ID	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
0	0	Non-Community/Non-Transier	NONE	NONE	NONE	NO	0	0

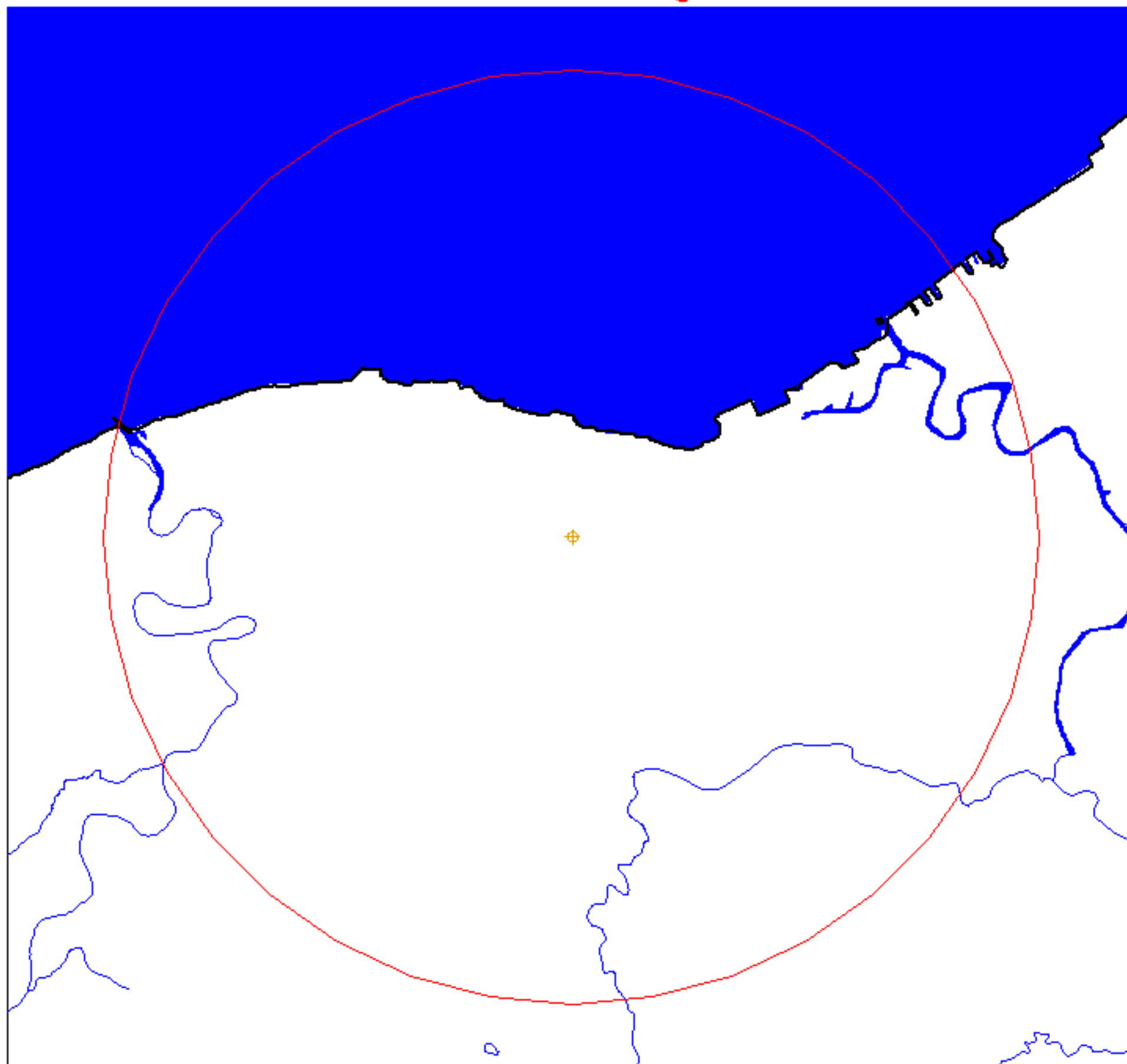


Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4 MILE RADIUS MAP

PUBLIC GROUND WATER SYSTEMS

Metals Refining



Site

Public Ground Water Systems

Community

Non-Community/Transient

Non-Community/Non-Transient

Rivers & Streams

Wellhead Protection Area

Lakes & Ponds

Limit of Radius From Site

County Boundaries

1 0 1 Miles



N

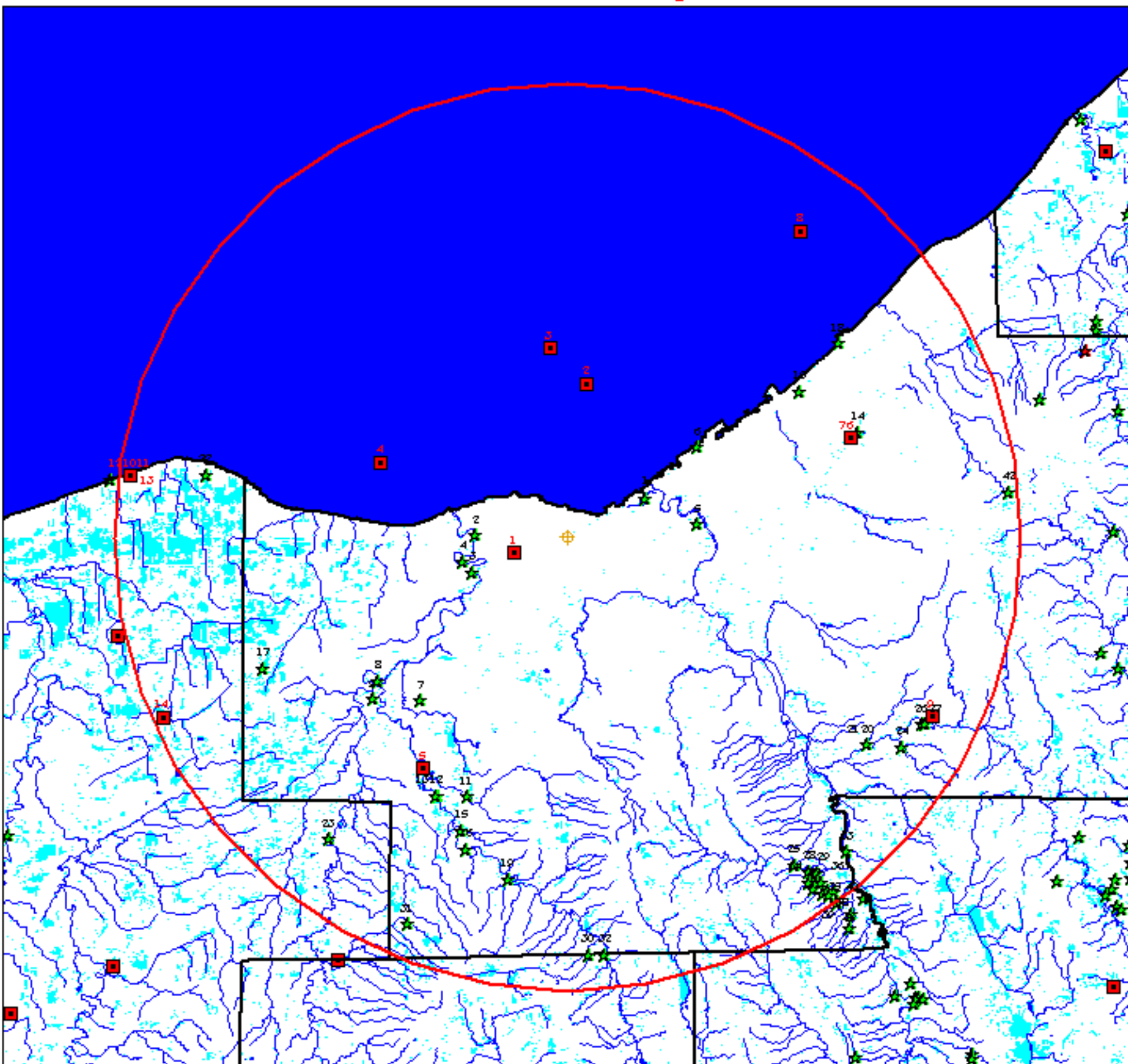


**Attachment 5:**  
**Natural Heritage Data for**  
**Metals Refining Co.**

<b>ID</b>	<b>STATUS</b>	<b>DISTANCE</b>	<b>SCI_NAME</b>	<b>COM_NAME</b>	<b>ID</b>
1	State Endangered	2.9007	MONARDA PUNCTATA	DOTTED HORSEMINT	1
2	State Threatened	3.013	SAGITTARIA RIGIDA	DEER'S-TONGUE ARROWHEAD	2
3	State Threatened	3.2955	SAGITTARIA RIGIDA	DEER'S-TONGUE ARROWHEAD	3
4	State Endangered	3.5181	NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON	4
5	State Threatened	4.3106	HIERACIUM CANADENSE	CANADA HAWKWEED	5
6	State Threatened	5.2247	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	6
7	State Threatened	7.2082	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	7
8	State Endangered	7.7991	THRYOMANES BEWICKII	BEWICK'S WREN	8
9	State Endangered	8.336	JUNIPERUS COMMUNIS	GROUND JUNIPER	9
10	State Threatened	9.0737	HIERACIUM CANADENSE	CANADA HAWKWEED	10
11	State Threatened	9.1415	NOTROPIS DORSALIS	BIGMOUTH SHINER	11
12	State Threatened	9.517	PRENANTHES CREPIDINEA	NODDING RATTLESNAKE-ROOT	12
13	State Threatened	9.5606	PRENANTHES CREPIDINEA	NODDING RATTLESNAKE-ROOT	13
14	State Threatened	10.2286	HIERACIUM CANADENSE	CANADA HAWKWEED	14
15	State Threatened	10.2662	CAREX PALLESCENS	PALE SEDGE	15
16	State Threatened	10.7983	NOTROPIS DORSALIS	BIGMOUTH SHINER	16
17	State Endangered	10.9087	CAREX LOUISIANICA	LOUISIANA SEDGE	17
18	State Threatened	11.0204	AMMOPHILA BREVILIGULATA	AMERICAN BEACH GRASS	18
19	State Threatened	11.432	NOTROPIS DORSALIS	BIGMOUTH SHINER	19
20	State Threatened	12.0475	ELYMUS TRACHYCAULUS	BEARDED WHEAT GRASS	20
21	State Threatened	12.0475	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	21
22	State Threatened	12.099	CAREX ALBOLUTESCENS	PALE STRAW SEDGE	22
23	State Endangered	12.6895	JUNIPERUS COMMUNIS	GROUND JUNIPER	23
24	State Endangered	13.0371	JUNIPERUS COMMUNIS	GROUND JUNIPER	24
25	State Threatened	13.1546	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	25
26	State Endangered	13.2345	JUNIPERUS COMMUNIS	GROUND JUNIPER	26
27	State Threatened	13.32	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	27
28	State Endangered	13.6244	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	28
29	State Endangered	13.7822	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	29
30	State Threatened	13.7926	NOTROPIS DORSALIS	BIGMOUTH SHINER	30
31	State Threatened	13.8073	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	31
32	State Threatened	13.8255	NOTROPIS DORSALIS	BIGMOUTH SHINER	32
33	State Threatened	13.8929	LECHEA INTERMEDIA	ROUND-FRUITED PINWEED	33
34	State Endangered	13.9066	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	34
35	State Endangered	14.0471	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	35
36	State Endangered	14.1325	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	36
37	State Endangered	14.1705	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	37
38	State Endangered	14.4626	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	38
39	State Endangered	14.5083	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	39
40	State Endangered	14.6261	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	40
41	State Endangered	14.6425	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	41
42	State Endangered	14.6804	SOLIDAGO PUBERULA	DUSTY GOLDENROD	42

## NATURAL HERITAGE DATA

### Metals Refining



Site

US Endangered/Threatened Species

Ohio Endangered/Threatened Species

Public Surface Water Systems

Community

Non-Community/Transient

Non-Community/Non-Transient

Rivers & Streams

Wetland Area

Lakes & Ponds

Limit of Radius From Site

County Boundaries

4 0 4 8 Miles

N

